



Dart Hawkesbury  
1270 Aberdeen St  
Hawkesbury, ON K6A 1K7 Canada  
Tel (613) 632-5200  
Fax 613 632-5246

## Purchasing Receipts

PO No	Supplier	Line Item No	Rel No	Terms	Purchased Item	Description	For Part No	Project	Equipment ID	Order Qty	Due Date	Received Quantity	Accounting Job No	Container No	Status	Receive Date	Price/Unit	Aging Days	Past Due	Total	Supplier Name
PO040517	ACI001-VC	1	1	Net 30	MT-A513-T-3.750W0.125	ASTM A513 TYPE 5 (1020/1026) ALLOY STEEL ROUND TUBING				6	6/7/31/2018	6		S103075	Stock	8/16/2018	\$ 120.30 / ft	0		\$771.84	Acier Ouellette Inc.
		5			MT-4140-B-2.000X4.000	Steel Bar				4		4		S103076	Stock	8/16/2018	\$ 82.54 / ft	0		\$330.17	Acier Ouellette Inc.
		6			MT-4140-B-0.500X4.000	4140 Steel Bar 0.500 X 4.000 : AISI 4140 STEEL BAR PER ASTM A29, AMS 6349, AMS 6382, AMS 6529, MIL-S-5626 MINIMUM ROCKWELL C = 28 RC MAXIMUM ROCKWELL C = 32 RC receive ft						4		S103077	Stock	8/16/2018	\$ 31.01 / ft	0		\$124.04	Acier Ouellette Inc.
		7			MT-4140-S-0.500	AISI 4140 Steel Sheet : AISI 4140 / 4142 STEEL SHEET OR PLATE MINIMUM ROCKWELL C = 28 Rc MAXIMUM ROCKWELL C = 32 Rc ASTM A829, AMS 6395				11		11		S103078	Stock	8/16/2018	\$ 80.34 / sf	0		\$892.60	Acier Ouellette Inc.
										Total:	25		26							\$1,613.60	



# ACIER OUELLETTE INC.

935, Boul. du Hâvre  
Salaberry de Valleyfield (Québec) J6S 5L1  
Tél.: 450-377-4248 Mtl: 514-336-4248 Ext.: 800-667-4248  
Fax: 450-377-5696 Mtl: 514-336-4246 Ext.: 866-456-4242

# DELIVERY - CLIENT

Copy

CO00100857

## Billed to

DART AEROSPACE LTD  
1270, ABERDEEN ST.  
HAWKESBURY, Ontario, K6A 1K7

## Shipped to

DART AEROSPACE LTD

, Ontario,

Att: CHANTAL LAVOIE Tél.: 613-632-5200

## Instruction

F-M

## Delivery Route

5

## Customer N°

CLI0001056

## Date

2018/07/18

## Delivery date

2018/08/09

## Your order N°

040517

## Processed by

Eric Kaehlert

## Salesman

OUELLETTE VALLEYFIELD

## Credit Terme

Net 30 Days

Product Description	Weight	Qty	UM	PCS NB				Internal Use Only			
				CMD	EXP	B/O	IN	I	S	C	OUT
<b>1 TUBE MEC 3.750 OD X .120 (R)</b> TME-3750120 6697 1 X 6' ** CERTIFICATE **  LINE# 1  AC18277-R-2018-07-25 Heat: 813X62610 <i>At</i>	27.91	6.00	PI								
<b>2 TUBE MEC 0.750 OD X .058 NS</b> TME-0750058 40 2 X 20' R/L ** CERTIFICATE **  LINE# 2  AC18278-JG-2018-07-26 HEAT: A718541	88.80	40.00	PI_\$PI								
<b>3 PLATE 4140 HEAT TREAT 2 NS</b> P4140-2H 9072 1 X 4' X 4' ** CERTIFICATE **  HT#  LINE# 5  AC18279-FU-2018-08-01 HEAT: C613450 <i>At</i>	108.65	1.33	PI2								



# DELIVERY - CLIENT

Copy

CO00100857

Product Description	Qty	Weight	UM	PCS NB			Internal Use Only				
				CMD	EXP	B/O	IN	I	S	C	OUT
4 PLATE 4140 HEAT TREAT 1/2 NS P4140-12H 1 X 4" X 4' ** CERTIFICATE ** HT# LINE# 6 AC18279-FU-2018-08-01 HEAT: 297080	27.16	1.33	PI2								
5 PLATE 4140 HEAT TREAT 1/2 NS P4140-12H 1 X 40" X 40" ** CERTIFICATE ** HT# LINE# 7 AC18279-FU-2018-08-01 HEAT: 297080	226.87	11.11	PI2								
Total Weight (Lbs) : 479.39				NIR : R-109516-6							
<b>Conditions :</b> All sold and delivered materials remain the property of "Acier Ouellette Inc" until payment is made in full, complete and cashed. All lost materials are at the buyer's expense. The warranty offered by "Acier Ouellette Inc." is the same as offered and honored by the manufacturer and his warranty is transferred by "Acier Ouellette Inc." to the client. The buyer hereby accepts to respect the following conditions: Net 30 days from billing date and the buyer accepts to pay administration charges of 2% per month (24% per annum) on all past due amounts over 30 days. Any default in respect with this contract will lead to payment by acceleration and permits to the seller, at his choice to claim for the balance due or the repossession of the goods sold. All claims must be made within five (5) days with this document enclosed. Any merchandise that has been damaged, cut or modified cannot be returned. All goods returned must be with our authorization and are subject to a 25% restocking charge.											
Prepared By :	Verified By :	Delivered By :	Time	Customer's Signature				Date			
								19/08/16			



Dart Aerospace Ltd.  
1270 Aberdeen St  
Hawkesbury, ON  
K6A 1K7  
Canada

Tel (613) 632-5200

# **PURCHASE ORDER** **PO040517**

**Supplier:** ACI001-VC  
Acier Ouellette Inc.  
935 Boul. Du Havre  
Valleyfield  
QC  
J6S 5L1 Canada  
Phone: 800 667 4248  
Fax: 450 377 5696

**PO No:** PO040517

**PO Date:** 7/17/18

**Due Date:** 7/24/18

**Purchase Order  
Revision:**

**Revision Date:**

**Ship-To Contact:** Lavoie, Chantal  
Phone: clavoie@dartaero.com

*REVISED*  
*\$*

**Ship To:** 1270 Aberdeen Street  
Hawkesbury  
ON  
K6A 1K7 Canada  
Phone: 613-632-5200

**Via:** Ground

**Pymt Terms:** Net 30

**Freight Terms:**

**Special Comments:** quotation no sou0119261

## Items

Line Item	Job	Part	Supplier Part No	Description	Status	Account	Due Date	Order Quantity	Received Quantity	Balance	Unit Price (CAD)	Extended Price
1		MT-A513-T-3.750W0.125		ASTM A513 TYPE 5 (1020/1026) ALLOY STEEL ROUND TUBING	Firmed	-	7/24/18	6 ft	0 ft	6 ft	\$120.30/ft	\$721.80
2	AT	MT-A513-T-0.750W0.085		A513 Seamless Alloy Steel Round Tubing 0.75"dia. x 0.085" Wall	Firmed	-	7/24/18	120 ft	0 ft	120 ft	\$4.65/ft	\$558.00
3		MT-A513-T-0.750W0.058		A513 Seamless Alloy Steel Round Tubing 0.75"dia. x 0.058" Wall : ASTM A513 TYPE 5 (1020/1026) SEAMLESS ALLOY STEEL ROUND TUBING (DOM)	Firmed	-	7/31/18	40 ft	0 ft	40 ft	\$10.90/ft	\$436.00
4		MT-HRS-S-6GA		Hot Rolled Steel Sheet 6 Gauge 0.1943"	Firmed	-	7/24/18	16 sf	0 sf	16 sf	\$7.36625/sf	\$117.86
Line Item Note: 1 pcs of 4 ft x 4 ft												
5		MT-4140-B-2.000X4.000		Steel Bar	Firmed	-	7/31/18	4 ft	0 ft	4 ft	\$82.5425/ft	\$330.17
6		MT-4140-B-0.500X4.000		4140 Steel Bar 0.500 X 4.000 : AISI 4140 STEEL BAR PER ASTM A29, AMS 6349, AMS 6382, AMS 6529, MIL-S-5626 MINIMUM ROCKWELL C = 28 RC MAXIMUM ROCKWELL C = 32 RC receive ft	Firmed	-	7/24/18	4 ft	0 ft	4 ft	\$31.01/ft	\$124.04
7		MT-4140-S-0.500		AISI 4140 Steel Sheet : AISI 4140 / 4142 STEEL SHEET OR PLATE MINIMUM ROCKWELL C = 28 Rc MAXIMUM ROCKWELL C = 32 Rc ASTM A829, AMS 6395	Firmed	-	7/24/18	11.111 sf	0 sf	11 sf	\$80.34218/sf	\$892.68

Line Item Note: 1 pcs of 40" x 40"

## Items

Line Item	Job	Part	Supplier Part No	Description	Status	Account	Due Date	Order Quantity	Received Quantity	Balance	Unit Price (CAD)	Extended Price
8 ✓ AT		M1018R4.000		M1018R4.000 : MATERIAL: AISI 1018-1025 ROUND BAR M1010S20GA AS PER MIL-S-7097 OR ASTM A108 receive ft	Firmed	-	7/20/18	2 ft	0 ft 2ft	2 ft	\$71.62/ft	\$143.24  AUG 02 2018
9 ✓ AT		M1018R2.750		M1018R2.750 : MATERIAL: AISI 1018-1025 ROUND BAR M1010S20GA AS PER MIL-S-7097 OR ASTM A108	Firmed	-	7/24/18	6 ft	0 ft 6ft	6 ft	\$29.115/ft	\$174.69  AUG 02 2018
10 ✓ AT		M303R2.500		303 Round Bar 2.5" : MATERIAL: AISI 303 SS ROUND BAR AS PER ASTM A582 NOTE:304/316 NOT ACCEPTABLE receive ft	Firmed	-	7/24/18	4 ft	0 ft 4ft	4 ft	\$20.50/ft	\$82.00  AUG 02 2018
11 ✓ AT		M304S11GA		304/316 0.125 Sheet : MATERIAL: AISI 304/316 SS SHEET ANNEALED AS PER MIL-S-5059 OR AMS 5513 (304) OR AMS 5524 (316) OR ASTM A240 OR ASME SA240	Firmed	-	7/24/18	32 sf	0 sf ✓ 32sf	32 sf	\$15.5375/sf	\$497.20  AT 18/08/18
12 ✓ AT		M5052H32S.040		5052-H32 .040 Sheet : MATERIAL: 5052-H32 ALUMINUM SHEET AS PER QQ-A-250/8 OR AMS-QQ-A-250/8 OR AMS 4016 OR ASTM B209 receive sf	Firmed	-	7/24/18	32 sf	0 sf / 32sf	32 sf	\$4.1434375/sf	\$132.59  AUG 02 2018
13 ✓ AT		M6061T6R1.250		6061-T6 Round Bar 1.250 : MATERIAL: 6061-T6/T651/T6510/T6511/T62 ALUMINUM ROUND BAR AS PER QQ-A-225/8 OR AMS-QQ-A-225/8 OR AMS 4117 4128/4115/4116 OR QQ-AA-200/8 OR AMS-QQ-A-200/8 OR AMS 4160 OR ASTM B221 OR ASTM B221 receive ft	Firmed	-	7/24/18	20 ft	0 ft / 20ft	20 ft	\$4.985/ft	\$99.70  AUG 02 2018
14 ✓ AT		MT-1144-R0.750		1144 Steel Proof Round Bar 0.750" : MATERIAL: AISI 1144 STRESSPROOF STEEL ROUND BAR ASTM A311 or UNS G11440	Firmed	-	7/31/18	24 ft	0 ft / 22ft	24 ft	\$3.12/ft	\$74.88  AUG 02 2018
Line Item Note 2 pcs of 12 ft												
15 ✓ AT		M6061T6B1.000X02.000		6061-T6 Bar 1.00 X 2.00 : MATERIAL: 6061-T6/T651/T6510/T6511/T62 ALUMINUM BAR PER QQ-A-225/8 OR AMS-QQ-A-225/8 OR AMS 4117/4128/4115/4116 OR QQ-A-200/8 OR AMS-QQ-A-200/8 OR AMS 4160 OR ASTM B211 OR ASTM B221 receive ft	Firmed	-	7/24/18	20 ft	0 ft / 20ft	20 ft	\$8.303/ft	\$166.06  AUG 02 2018

Items												
Line Item	Job	Part	Supplier Part No	Description	Status	Account	Due Date	Order Quantity	Received Quantity	Balance	Unit Price (CAD)	Extended Price
16 ✓ AT		M6061T6B0.375X0.750		6061T6 Bar .375 X .750 : MATERIAL: 6061-T6/T651/T6510/T6511/T62 ALUMINUM BAR PER QQ-A-225/8 OR AMS-QQ-A-225/8 OR AMS 4117/4128/4115/4116 OR QQ-A-200/8 OR AMS-QQ-A-200/8 OR AMS 4160 OR ASTM B211 OR ASTM B221 receive ft	Firmed	-	7/24/18	20 ft	0 ft	20 ft	\$1.288/ft	\$25.76
											AUG 02 2018	
17 ✓ AT		M6061T6B0.500X02.000		6061-T6 Bar .500 X 2.00 : MATERIAL: 6061-T6/T651/T6510/T6511/T62 ALUMINUM BAR PER QQ-A-225/8 OR AMS-QQ-A-225/8 OR AMS 4117/4128/4115/4116 OR QQ-A-200/8 OR AMS-QQ-A-200/8 OR AMS 4160 OR ASTM B211 OR ASTM B221 receive ft	Firmed	-	7/24/18	20 ft	0 ft	20 ft	\$4.148/ft	\$82.96
											AUG 02 2018	
18 ✓ AT		M6061T6B0.750X02.000		6061-T6 Bar .750 X 2.00 : MATERIAL: 6061-T6/T651/T6510/T6511/T62 ALUMINUM BAR PER QQ-A-225/8 OR AMS-QQ-A-225/8 OR AMS 4117/4128/4115/4116 OR QQ-A-200/8 OR AMS-QQ-A-200/8 OR AMS 4160 OR ASTM B211 OR ASTM B221 receive ft	Firmed	-	7/24/18	20 ft	0 ft	20 ft	\$6.2895/ft	\$125.79
											AUG 02 2018	
19 ✓ AT		M6061T6B3.000X01.500		6061-T6 Bar 3.00 X 1.50 : MATERIAL: 6061-T6/T651/T6510/T6511/T62 ALUMINUM BAR PER QQ-A-225/8 OR AMS-QQ-A-225/8 OR AMS 4117/4128/4115/4116 OR QQ-A-200/8 OR AMS-QQ-A-200/8 OR AMS 4160 OR ASTM B211 OR ASTM B221 receive ft	Firmed	-	7/24/18	12 ft	0 ft	12 ft	\$18.043333/ft	\$216.52
											AUG 02 2018	
20 ✓ AT		M6061T6S.040		6061-T6 .040 Sheet : MATERIAL: 6061-T6/T62 ALUMINUM SHEET AS PER QQ-A-250/11 OR AMS-QQ-A-250/11 OR AMS 4025 OR AMS 4027 OR ASTM B209 receive sf	Firmed	-	7/24/18	144 sf	0 sf	144 sf	\$8.5069444/sf	\$1,225.00
											AUG 02 2018	
21 ✓ AT		M6061T6S.080		6061-T6 .080 Sheet : MATERIAL: 6061-T6/T62 ALUMINUM SHEET AS PER QQ-A-250/11 OR AMS-QQ-A-250/11 OR AMS 4025 OR AMS 4027 OR ASTM B209 receive sf	Firmed	-	7/24/18	288 sf	0 sf	288 sf	\$9.6979166/sf	\$2,793.00
											AUG 02 2018	
Grand Total:												\$9,019.94

## Order Notes

CL

## Order Notes

## Procurement Quality Clauses

A005 right of entry

A012 chemical and physical test report

A016 personnel qualification

A017 raw material identification (as applicable)

A026 certification of material conformance

A041 quality management system

A042 dart notification by supplier

A043 retention of quality documents

A048 counterfeit parts avoidance, detection, mitigation and disposition program

A049 supplier awareness

Terms & Condition of Purchasing(Suppliers) and Procurement Quality Clauses are an integral part of our AS9100 requirements. To learn in detail, please visit [www.dartaerospace.com](http://www.dartaerospace.com) for further explanation.

Plex 7/18/18 12:53 PM dart.lavoie.chantal



CO 100857  
Dart

P.O 18277

# CERTIFICATE OF TEST

Page 01 of 01

Certification Date  
25-JUL-2018

## CUSTOMER ORDER NUMBER

AC00018277

## CUSTOMER PART NUMBER

Invoice Number  
T132129

**SOLD TO:** ACIER OUELLETTE INC.  
DIVISION SALABERRY-DE-VALLEYFIELD  
935, BOUL DU HAVRE  
SALABERRY-DE- VALLEYFIELD QC J6S 5L1

**SHIP TO:** ACIER OUELLETTE INC.  
DIVISION SALABERRY-DE-VALLEYFIELD  
935, BOUL DU HAVRE  
SALABERRY-DE- VALLEYFIE QC J6S

Description: 1020 DOM SRA (A513/5)  
~~3.750 OD X 3.500 ID X 6'5.0" (77.0")~~ REMNAN Line Total: 6.4 FT  
HEAT: 813X62610 ITEM: 107457

Specifications:  
ASTM A513 TP 5

### CHEMICAL ANALYSIS

C	MN	P	S	AL	SI	CB	V
0.19	0.36	0.008	0.006	0.042	0.085	0.002	0.001
CU	MO	NI	CR	B			
0.023	0.004	0.01	0.02	0.0002			

RCPT: R273456

COUNTRY OF ORIGIN : USA

### MECHANICAL PROPERTIES

DESCRIPTION	YLD STR	ULT TEN	%ELONG	%RED	HARDNESS
	PSI	PSI	IN 02 IN	IN AREA	RB
	64100.0	76700.0	20.0		85

TERRY GALBRAITH

The above data were transcribed from the manufacturer's Certificate of Test after verification for completeness and specification requirements of the information on the certificate. All test results remain on file subject to examination.

Material did not come in contact with mercury while in our possession.

We hereby certify that the material covered by this report will meet the applicable requirements described herein, including any specification forming a part of the description.

The willful recording of false, fictitious, or fraudulent statements in connection with test results may be punishable as a felony under federal statutes.

MANAGER, CORPORATE PURCHASING



REV.	DESCRIPTION	ECN #	DATE	BY
A	NEW RELEASE	17-555	17.09.06	VM
B	TYPE 5 ADDED, TEMPLATE UPDATED	17-790	17.12.13	VM

## SPECIFICATION CONTROL DRAWING

**PURCHASE MATERIAL:** ASTM A513 TYPE 5 (1020/1026) SEAMLESS ALLOY STEEL ROUND TUBING (DOM)

**SPECIFICATION:** ASTM A513 TYPE 5

**PART NUMBER:** MT-A513-T-[D.DDD]WT.[T.TT]

WHERE D.DDD IS OUTSIDE DIAMETER IN INCHES  
 WHERE T.TT IS WALL THICKNESS IN INCHES  
 EG. 3/4" ROUND TUBING WITH .120" WALL THICKNESS = MT-A513-T-0.750W0.120

**ASTM A513 TYPE 5 (1020/1026) SEAMLESS ALLOY STEEL ROUND TUBING**

**DATE:** 17.12.13  
**BY:** VM

**ECN #:** 17-790

**DESCRIPTION:** TYPE 5 ADDED, TEMPLATE UPDATED

**REV.:** A

**DATE:** 17.09.06  
**BY:** VM

**ASTM A513 TYPE 5 (1020/1026) SEAMLESS ALLOY STEEL ROUND TUBING**

**DATE:** 17.12.13  
**BY:** VM

**ECN #:** 17-790

**DESCRIPTION:** TYPE 5 ADDED, TEMPLATE UPDATED

**REV.:** A

**DATE:** 17.09.06  
**BY:** VM

SPECIFICATION: ASTM A513 TYPE 5

PART NUMBER: MT-A513-T-[D.DDDJW[T.TTT]]

WHERE D.DDD IS OUTSIDE DIAMETER IN INCHES

WHERE T.TTT IS WALL THICKNESS IN INCHES

EG. 3/4" ROUND TUBING WITH .120" WALL THICKNESS = MT-A513-T-0.750W0.120

[illegible]

# MATERIAL RECEIPT INSPECTION FORM

MATERIAL: MT-AS13-T-3.750W0.125 PO / BATCH NO.: P0040517/5103075  
 DATE: 18/08/16

MATERIAL CERT REC'D: Yes  
 QUANTITY RECEIVED: 6.416 Lt  
 QUANTITY INSPECTED: 6.416 Lt  
 QUANTITY REJECTED: 0

THICKNESS ORDERED: 3.750" 0.125"  
 THICKNESS RECEIVED: 3.750" 0.125"  
 SHEET SIZE ORDERED: —  
 SHEET SIZE RECEIVED: —

DESCRIPTION	NCR (Check Y/N)	COMMENTS
SURFACE DAMAGE	Y <u>(N)</u>	
CORRECT FINISH	<u>(Y)</u> N	
CORROSION	Y <u>(N)</u>	
CORRECT GRAIN DIRECTION	<u>(Y)</u> N	
CORRECT MATERIAL PER M-DRAWING	<u>(Y)</u> N	<u>ASTM A513 Type 5</u>
CORRECT THICKNESS	<u>(Y)</u> N	
PHOTO REQUIRED	Y <u>(N)</u>	
CORRECT REF # TO LINK CERT	<u>(Y)</u> N	<u>MT: 813x62610</u>
CORRECT MATERIAL IDENTIFICATION	<u>(Y)</u> N	
CORRECT M# ON THE MATERIAL	<u>(Y)</u> N	
DOES THIS MATERIAL REQUIRE ENGINEERING SIGN OFF	Y <u>(N)</u>	
DOES THIS REQUIRE AN EXTRUSION REPORT	Y <u>(N)</u>	

CUT SAMPLE PIECE OF MATERIAL AND PREFORM A HARDNESS CHECK. RECORD RESULTS BELOW					
	HRC	HRB	DUR A	DUR D	WEBSTER
TYPE OF MATERIAL					
SIZE OF TEST SAMPLE					
HARDNESS / DUROMETER READING					

testers located in the Quality Office

QC 18 INSPECTION	ENGINEERING SIGNOFF (if required)
INSPECTED BY: <u>AT</u> DATE: <u>18/08/16</u>	SIGNED OFF BY: _____ DATE: _____

Attach this inspection sheet with the corresponding material cert and remit to be scanned and received in

**Chemical certification**  
**Certification chimique**

18279N

Order Num / No. Commande <b>AC-18279</b>	Vendor / Fournisseur <b>52</b>	Country of origin / Pay d'origine <b>CHINA</b>	Date <b>11/16/17</b>	Heat / coulée <b>C613450</b>	Material ID # / No. matière
Grade / Nuance <b>4140 PLT</b>	Conditions <b>HEAT TREATED</b>				
Shape / Forme <b>PLT</b>	Size / Dimension <b>2.000</b>	Specifications <b>ASTM A829, ASTM A578 CLASS A</b>			

Chemical composition / Analyse chimique				
Carbon (C)	Silicon (Si)	Manganese (Mn)	Phosphorus (P)	
Mini / maxi 0.3700 / 0.4400	0.1500 / 0.3500	0.6500 / 1.1000	0.0100 / 0.0190	
Actuel % 0.390	0.260	0.930	0.020	
Sulphur (S)	Chromium (Cr)	Nickel (Ni)	Molybdenum (Mo)	
Mini / maxi 0.0200 / 0.0400	0.7500 / 1.2000	0.1000 / 0.2000	0.1500 / 0.2500	
Actuel % 0.002	1.050	0.000	0.210	
Copper (Cu)	Vanadium (V)	Aluminum (Al)	Tungsten (W)	
Mini / maxi 0.1900 / 0.2900	0.0000 / 0.0000	0.0000 / 0.0000	0.0000 / 0.0000	
Actuel % 0.000	0.000	0.000	0.000	
Cobalt (Co)	Titanium (Ti)			
Mini / maxi 0.0000 / 0.0000	0.0000 / 0.0000	0.0000 / 0.0000	0.0000 / 0.0000	0.0000 / 0.0000
Actuel % 0.000	0.000	0.000	0.000	0.000
Mechanical properties / Propriétés Mécaniques				
Yield strenght / Élasticité	Tensile / Rés. à la traction	Elongation / Allon. (%)	Red. of area / Surface (%)	RC
680.000 PSI	895.000 PSI	16.00	41.00	
				Surface Hd / Dureté
				30 BHN

**Note:**

We certify that the above data has been verified and are conform to an original mill or supplier certificate supplied to us with the material

Nous certifions que les données ci haut ont été vérifier et sont conformes d'après un certificat originale qui nous a été fourni par notre fournisseur.

*MS*

Prepared by: / Préparé par:



# **SPECIFICATION CONTROL DRAWING**

PURCHASE MATERIAL : AISI 4140 / 4142 STEEL BAR  
 MINIMUM ROCKWELL C = 28 Rc  
 MAXIMUM ROCKWELL C = 32 Rc

SPECIFICATION: ASTM A29, AMS 6349, AMS 6382, AMS 6529, MIL-S-5626, MIL-S-24093

PART NUMBER: MT-4140-B-[T.TTT] x [W.WWW]  
 WHERE "T.TTT" = THICKNESS IN INCHES  
 WHERE "W.WWW" = WIDTH IN INCHES  
 EX. 4.0" x 6.0" BAR = MT-4140-B-4.000x6.000

REV.	DESCRIPTION	ECN #	DATE	BY	APPROVED
A	NEW ISSUE	17-790	17.12.13	VM	ML
B	MIN & MAX Rc CHANGED	18-523	18.01.24	VM	ML
C	ADD AISI 4142	18-544	18.02.14	ML	ML

<b>DART AEROSPACE</b> Newarkbury, Ontario, Canada	
TITLE <b>AISI 4140 / 4142 STEEL BAR</b>	
PART NO. <b>MT-4140-B</b>	REV. <b>C</b>
TOOL NO.	
UNLESS OTHERWISE SPECIFIED: DIMENSIONS ARE IN INCHES FRACTIONS ARE 1/16, 1/8, 1/4, 1/2, 3/4, 1, 2, 3, 4, 5, 6, 8, 10, 12, 14, 16, 18, 20, 24, 30, 36, 48, 60, 72, 96, 120, 144, 180, 216, 240, 288, 360, 432, 480, 576, 720, 864, 1008, 1152, 1296, 1512, 1728, 2048, 2304, 2768, 3264, 3840, 4608, 5472, 6552, 7776, 9216, 10944, 12996, 15384, 18128, 21216, 24672, 29616, 35136, 42288, 50112, 58752, 69216, 82656, 98976, 118272, 140640, 166176, 195000, 227328, 272736, 322800, 388416, 460608, 549456, 655968, 781152, 927000, 1094400, 1295040, 1538880, 1826880, 2160000, 2549184, 3004320, 3525440, 4112640, 4776000, 5525632, 6371328, 7323200, 8391360, 9576000, 10888320, 12339360, 13940160, 15691776, 17605200, 19691520, 21960864, 24414240, 27062720, 29916160, 32975200, 36250080, 39741920, 43451040, 47378560, 51524736, 55899776, 60504000, 65338720, 70404224, 75701824, 81231744, 86995200, 92993216, 99226944, 105697600, 112405824, 119351744, 126536480, 133961024, 141626464, 149533824, 157683104, 166075424, 174711776, 183593184, 192720656, 202095184, 211716768, 221485408, 231402112, 241466880, 251679696, 262040624, 272549632, 283206720, 294011872, 304966048, 316069248, 327321472, 338722816, 350273280, 361972832, 373821504, 385819376, 397866432, 409962672, 422108096, 434303712, 446553424, 458857232, 471315136, 483927136, 496593232, 509313424, 522087712, 534916192, 547798864, 560735728, 573726880, 586772320, 599872064, 612926112, 625934464, 638897120, 651814080, 664685344, 677510912, 690291776, 703028032, 715720080, 728367920, 740971552, 753530976, 766046192, 778517200, 790944096, 803326880, 815664528, 827957040, 840204512, 852406944, 864464352, 876476736, 888444096, 900366432, 912243744, 924075920, 935852560, 947583664, 959269232, 970909264, 982503760, 994052224, 1005554656, 1017015072, 1028433456, 1039809808, 1051144128, 1062436416, 1073686736, 1084895088, 1096061472, 1107185888, 1118268320, 1129308768, 1140307232, 1151263712, 1162178208, 1173050720, 1183881248, 1194669792, 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2349881072, 2352951888, 2355976064, 2358953600, 2361884512, 2364768784, 2367606320, 2370397120, 2373141184, 2375838528, 2378489152, 2381093056, 2383650240, 2386160688, 2388624384, 2391091328, 2393560512, 2395931936, 2398305584, 2400682464, 2403011584, 2405292928, 2407526496, 2409713280, 2411853280, 2413946496, 2415992928, 2417992576, 2419945440, 2421851520, 2423719824, 2425540336, 2427313056, 2429037984, 2430715120, 2432344368, 2433925728, 2435459200, 2436944784, 2438382480, 2439772288, 2441114208, 2442408240, 2443654384, 2444852624, 2445992960, 2447085392, 2448129920, 2449126544, 2450075264, 2450976080, 2451828992, 2452633904, 2453390912, 2454099920, 2454760928, 2455373936, 2455938944, 2456455952, 2456924960, 2457345968, 2457718976, 2458043984, 2458320992, 2458599904, 2458870816, 2459133824, 2459388832, 2459635840, 2459874848, 2460105856, 2460328864, 2460543872, 2460750880, 2460949888, 2461140896, 2461323904, 2461498912, 2461665920, 2461824928, 2461975936, 2462118944, 2462253952, 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REV.	DESCRIPTION	ECN #	DATE	BY
A	NEW ISSUE	18-544	18.2.13	VM

## SPECIFICATION CONTROL DRAWING

**PURCHASE MATERIAL :** AISI 4140 / 4142 STEEL SHEET OR PLATE  
 MINIMUM ROCKWELL C = 28 Rc  
 MAXIMUM ROCKWELL C = 32 Rc

**SPECIFICATION:** ASTM A829, AMS 6395

**PART NUMBER:** MT-4140-S-IT.TTTI x IW.WWW  
 WHERE "T.TTTI" = THICKNESS IN INCHES  
 WHERE "W.WWW" = WIDTH IN INCHES (OPTIONAL FOR SPECIFYING CUT PLATE)

EX. 0.063" THICK SHEET = MT-4140-S-0.063  
 EX. 3.5" WIDE BY 0.500" THICK PLATE = MT-4140-S-0.500X3.500

**DART AEROSPACE**

TITLE: AISI 4140 / 4142 STEEL SHEET OR PLATE

PART NO.: MT-4140-S


TOOL NO.:

DESIGNED BY: VM 2/13/2018  
 DRAWN BY: VM 02/13/2018  
 CHECKED BY: VM 02/13/2018  
 MFG REVIEW BY: DD 02/13/2018  
 APPROVED BY: ML 02/14/2018

SCALE: NTS

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EX. 0.063" THICK SHEET = MT-4140-S-0.063  
EX. 3.5" WIDE BY 0.500" THICK PLATE = MT-4140-S-0.500X3.500

TITLE			Hambleton, Ontario, Canada	
	AISI 4140 / 4142 STEEL SHEET OR PLATE			
FART NO.	MT-4140-S		REV	A
TOOL NO.	(USERS CONFORMANCE SPECIFIED) INTEREST PARTS: 4140 & 4142 INTEREST PARTS: 4140 & 4142 DIMENSIONS APPLICABLE AFTER HEAT TREATING			
DESIGNED BY:	VJM 2/13/2018		INITIALS AND DATE	
DRAWN BY:	VJM 02/13/2018		TOLERANCES	FRACTIONS 1/8
CHECKED BY:	VJM 02/13/2018		UNITS	INCHES 4.75
MFG REVIEW BY:	DD 02/13/2018		ANGLE	90°
APPROVED BY:	DD 02/13/2018		ROUNDSNESS	
COPIES	1		SCALE: NTS.	SHEET 1 OF 1
THIS DOCUMENT IS THE PROPERTY OF DART AEROSPACE. IT IS TO BE USED ONLY FOR THE PARTS AND DIMENSIONS SPECIFIED HEREIN. NO PARTS SHALL BE USED FOR ANY OTHER PURPOSES WITHOUT THE WRITTEN PERMISSION OF DART AEROSPACE.				

# MATERIAL RECEIPT INSPECTION FORM

MATERIAL: MT-440-B-2.000x1.000  
 DATE: 18/08/16

PO / BATCH NO.: P0040517/S103076

MATERIAL CERT REC'D: Yes  
 QUANTITY RECEIVED: 4 ft  
 QUANTITY INSPECTED: 4 ft  
 QUANTITY REJECTED: 0

THICKNESS ORDERED: 2.000"  
 THICKNESS RECEIVED: 2.000"  
 SHEET SIZE ORDERED: —  
 SHEET SIZE RECEIVED: —

DESCRIPTION	NCR (Check Y/N)		COMMENTS
SURFACE DAMAGE	Y	<input checked="" type="radio"/> N	
CORRECT FINISH	<input checked="" type="radio"/> Y	N	
CORROSION	Y	<input checked="" type="radio"/> N	
CORRECT GRAIN DIRECTION	<input checked="" type="radio"/> Y	N	
CORRECT MATERIAL PER M-DRAWING	<input checked="" type="radio"/> Y	N	ASTM A829
CORRECT THICKNESS	<input checked="" type="radio"/> Y	N	
PHOTO REQUIRED	Y	<input checked="" type="radio"/> N	
CORRECT REF # TO LINK CERT	<input checked="" type="radio"/> Y	N	MT: C613450
CORRECT MATERIAL IDENTIFICATION	<input checked="" type="radio"/> Y	N	
CORRECT M# ON THE MATERIAL	<input checked="" type="radio"/> Y	N	
DOES THIS MATERIAL REQUIRE ENGINEERING SIGN OFF	Y	<input checked="" type="radio"/> N	
DOES THIS REQUIRE AN EXTRUSION REPORT	Y	<input checked="" type="radio"/> N	

CUT SAMPLE PIECE OF MATERIAL AND PREFORM A HARDNESS CHECK. RECORD RESULTS BELOW					
	HRC	HRB	DUR A	DUR D	WEBSTER
TYPE OF MATERIAL					
SIZE OF TEST SAMPLE					
HARDNESS / DUROMETER READING					

*testers located in the Quality Office*

QC 18 INSPECTION	ENGINEERING SIGNOFF (if required)
INSPECTED BY: <u>AT</u>	SIGNED OFF BY: _____
DATE: <u>18/08/16</u>	DATE: _____

Attach this inspection sheet with the corresponding material cert and remit to be scanned and received in



**Chemical certification**  
**Certification chimique**

18279N

Order Num / No. Commande <b>AC-18279</b>	Vendor / Fournisseur <b>46</b>	Country of origin / Pay d'origine <b>SLOVENIA</b>	Date <b>09/10/16</b>	Heat / coulée <b>297080</b>	Material ID # / No. matériel
Grade / Nuance <b>4140 PLT</b>	Conditions <b>HEAT TREATED Q&amp;T E + VD</b>				
Shape / Forme <b>FLT</b>	Size / Dimension <b>0.500</b>	Specifications <b>ASTM A829/A829M</b>			

Chemical composition / Analyse chimique					
Carbon (C)		Silicon (Si)		Manganese (Mn)	
Mini / maxi	0.3700 / 0.4400	0.1500 / 0.3500		0.6500 / 1.1000	
Actuel %	0.430	0.224		0.783	
Sulphur (S)		Chromium (Cr)		Nickel (Ni)	
Mini / maxi	0.0200 / 0.0400	0.7500 / 1.2000		0.1000 / 0.2000	
Actuel %	0.001	0.960		0.130	
Cooper (Cu)		Vanadium (V)		Aluminum (Al)	
Mini / maxi	0.1900 / 0.2900	0.0400 / 0.0500		0.0090 / 0.0190	
Actuel %	0.244	0.039		0.015	
Cobalt (Co)		Titanium (Ti)			
Mini / maxi	0.0000 / 0.0000	0.0000 / 0.0000	0.0000 / 0.0000	0.0000 / 0.0000	0.0000 / 0.0000
Actuel %	0.000	0.000	0.000	0.000	0.000
Mechanical properties / Propriétés Mécaniques					
Yield strenght / Élasticité		Tensile / Rés. à la traction		Elongation / Allon. (%)	
0.000 PSI		0.000 PSI		0.00	
				0.00	
				RC	
				Surface Hd / Dureté	
				284 BHN	

**Note:**

We certify that the above data has been verified and are conform to an original mill or supplier certificate supplied to us with the material

Nous certifions que les données ci haut on été vérifier et sont conformes d'après un certificat originale qui nous a été fourni par notre fournisseur.

MI  
Prepared by: / Préparé par:


REV.	DESCRIPTION	ECN #	DATE	BY	APPROVED
A	NEW ISSUE	17-790	17.12.13	VM	ML
B	MIN & MAX Rc CHANGED	18-523	18.01.24	VM	ML
C	ADD AISI 4142	18-544	18.02.14	ML	ML

## SPECIFICATION CONTROL DRAWING

PURCHASE MATERIAL : AISI 4140 / 4142 STEEL BAR  
MINIMUM ROCKWELL C = 28 Rc  
MAXIMUM ROCKWELL C = 32 Rc

SPECIFICATION: ASTM A29, AMS 6349, AMS 6382, AMS 6529, MIL-S-5626, MIL-S-24093

PART NUMBER: MT-4140-B-[L.TTT] x [W.WWW]  
WHERE "L.TTT" = THICKNESS IN INCHES  
WHERE "W.WWW" = WIDTH IN INCHES  
EX. 4.0" x 6.0" BAR = MT-4140-B-4.000x6.000

	
TITLE AISI 4140 / 4142 STEEL BAR	
PART NO. MT-4140-B	REV. C
UNLESS OTHERWISE SPECIFIED: DIMENSIONS ARE IN INCHES DIMENSIONS APPLY AFTER FINISHING	
DESIGNED BY: VM 12/13/2017 DRAWN BY: ML 02/14/2018 CHECKED BY: VM 02/14/2018 APPROVED BY: ML 02/14/2018	TOLERANCES: FRACTIONS ± .01 DECIMALS ± .005 SURFACE ROUGHNESS X ± .1 SCALE: NTS SHEET TOP 1
THIS DOCUMENT IS FOR THE PURPOSE OF COMMUNICATING TO THE MANUFACTURER THE REQUIREMENTS FOR THE PART. IT IS NOT TO BE USED FOR ANY OTHER PURPOSE. ANY DIMENSIONS NOT SPECIFIED IN THIS DOCUMENT SHALL BE IN ACCORDANCE WITH THE APPLICABLE STANDARD.	

## SPECIFICATION CONTROL DRAWING

PURCHASE MATERIAL :

AISI 4140 / 4142 STEEL SHEET OR PLATE  
MINIMUM ROCKWELL C = 28 Rc  
MAXIMUM ROCKWELL C = 32 Rc

SPECIFICATION:

ASTM A829 / AMS 6395

PART NUMBER:

MT-4140-S-(T.TTT) x (W.WWW)  
WHERE "T.TTT" = THICKNESS IN INCHES  
WHERE "W.WWW" = WIDTH IN INCHES (OPTIONAL FOR SPECIFYING CUT PLATE)

EX. 0.063" THICK SHEET = MT-4140-S-0.063  
EX. 3.5" WIDE BY 0.500" THICK PLATE = MT-4140-S-0.500X3.500

REV.	DESCRIPTION	ECN #	DATE	BY	APPROVED
A	NEW ISSUE	18-544	18.2.13	VM	ML

<b>DART</b> AEROSPACE		Headquarters, Ontario, Canada	
TITLE AISI 4140 / 4142 STEEL SHEET OR PLATE			
PART NO.	MT-4140-S	REV.	A
TOOL NO.			
UNLESS OTHERWISE SPECIFIED: DIMENSIONS ARE IN INCHES DIMENSIONS APPLY AFTER FINISHING			
DESIGNED BY:	VM 2/13/2018	TOLERANCE:	FRACTIONS ± IN
DRAWN BY:	VM 02/13/2018	XXX ± .005	SURFACE ± IN
CHECKED BY:	VM 02/13/2018	X ± .1	ROUGHNESS
MFG REVIEW BY:	DD 02/13/2018	SCALE: NTS	SHEET 1 OF 1
APPROVED BY:	ML 02/13/2018	THIS DOCUMENT IS UNCLASSIFIED TO ANY ONE OF FOUR PROTECT LEVELS TO BE IN ACCORDANCE WITH THE DART INFORMATION SECURITY POLICY	



## MATERIAL RECEIPT INSPECTION FORM

MATERIAL: MT-4140B-0.500x4.000

PO / BATCH NO.: P0040517/S103077

DATE: 18/08/16

MATERIAL CERT REC'D: Yes

THICKNESS ORDERED: 0.500"

QUANTITY RECEIVED: 4P

THICKNESS RECEIVED: 0.500"

QUANTITY INSPECTED: 4P

SHEET SIZE ORDERED: —

QUANTITY REJECTED: 0

SHEET SIZE RECEIVED: —

DESCRIPTION	NCR (Check Y/N)	COMMENTS
SURFACE DAMAGE	Y <input checked="" type="checkbox"/> N <input type="checkbox"/>	
CORRECT FINISH	<input checked="" type="checkbox"/> Y <input type="checkbox"/> N	
CORROSION	Y <input type="checkbox"/> N <input checked="" type="checkbox"/>	
CORRECT GRAIN DIRECTION	<input checked="" type="checkbox"/> Y <input type="checkbox"/> N	
CORRECT MATERIAL PER M-DRAWING	<input checked="" type="checkbox"/> Y <input type="checkbox"/> N	<u>ASTM A82</u>
CORRECT THICKNESS	<input checked="" type="checkbox"/> Y <input type="checkbox"/> N	
PHOTO REQUIRED	Y <input type="checkbox"/> N <input checked="" type="checkbox"/>	
CORRECT REF # TO LINK CERT	<input checked="" type="checkbox"/> Y <input type="checkbox"/> N	<u>HT-297080</u>
CORRECT MATERIAL IDENTIFICATION	<input checked="" type="checkbox"/> Y <input type="checkbox"/> N	
CORRECT M# ON THE MATERIAL	<input checked="" type="checkbox"/> Y <input type="checkbox"/> N	
DOES THIS MATERIAL REQUIRE ENGINEERING SIGN OFF	Y <input type="checkbox"/> N <input checked="" type="checkbox"/>	
DOES THIS REQUIRE AN EXTRUSION REPORT	Y <input type="checkbox"/> N <input checked="" type="checkbox"/>	

CUT SAMPLE PIECE OF MATERIAL AND PREFORM A HARDNESS CHECK. RECORD RESULTS BELOW					
	HRC	HRB	DUR A	DUR D	WEBSTER
TYPE OF MATERIAL					
SIZE OF TEST SAMPLE					
HARDNESS / DUROMETER READING					

testers located in the Quality Office

QC 18 INSPECTION	ENGINEERING SIGNOFF (if required)
INSPECTED BY: <u>AT</u>	SIGNED OFF BY: _____
DATE: <u>18/08/16</u>	DATE: _____

Attach this inspection sheet with the corresponding material cert and remit to be scanned and received in

8 7 6 5 4 3 2 1

REV.	DESCRIPTION	EON #	DATE	BY	APPROVED
A	NEW ISSUE	18-544	18.2.13	VM	ML

## SPECIFICATION CONTROL DRAWING

PURCHASE MATERIAL : AISI 4140 / 4142 STEEL SHEET OR PLATE  
MINIMUM ROCKWELL C = 28 Rc  
MAXIMUM ROCKWELL C = 32 Rc

SPECIFICATION: ASTM A829, AMS 6395

PART NUMBER: MT-4140-S-[T.TTT] x [W.WWW]  
WHERE "T.TTT" = THICKNESS IN INCHES  
WHERE "W.WWW" = WIDTH IN INCHES (OPTIONAL FOR SPECIFYING CUT PLATE)

EX. 0.063" THICK SHEET = MT-4140-S-0.063  
EX. 3.5" WIDE BY 0.500" THICK PLATE = MT-4140-S-0.500X3.500

<b>DART</b> AEROSPACE		Headquarters, Ontario, Canada	
TITLE AISI 4140 / 4142 STEEL SHEET OR PLATE			
PART NO. MT-4140-S		REV. A	
TOOL NO.			
UNLESS OTHERWISE SPECIFIED: DIMENSIONS ARE IN INCHES DIMENSIONS ARE TO BE INTERPRETED AS UNLESS OTHERWISE SPECIFIED DIMENSIONS APPLY AT TYPICAL FINISHING			
DESIGNED BY: VM 2/13/2018		TOLERANCES: ± 1/8"	
DRAWN BY: VM 02/13/2018		ANGLE: ± 30°	
CHECKED BY: VM 02/13/2018		FINISH: X ± 1	
APPROVED BY: VM 02/13/2018		SCALE: 1:1	
APPROVED BY: VM 02/13/2018		SHEET 1 OF 1	
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*note*

8 7 6 5 4 3 2 1

# MATERIAL RECEIPT INSPECTION FORM

MATERIAL: MT-4140-S-0.500  
 DATE: 18/08/16

PO / BATCH NO.: P0040517/5403078

MATERIAL CERT REC'D: Yes  
 QUANTITY RECEIVED: 11.11sf  
 QUANTITY INSPECTED: 11.11sf  
 QUANTITY REJECTED: 0

THICKNESS ORDERED: 0.500"  
 THICKNESS RECEIVED: 0.500"  
 SHEET SIZE ORDERED: 40" x 40"  
 SHEET SIZE RECEIVED: 40" x 40"

DESCRIPTION	NCR (Check Y/N)		COMMENTS
SURFACE DAMAGE	Y	<input checked="" type="checkbox"/> N	
CORRECT FINISH	<input checked="" type="checkbox"/> Y	N	
CORROSION	Y	<input checked="" type="checkbox"/> N	
CORRECT GRAIN DIRECTION	<input checked="" type="checkbox"/> Y	N	
CORRECT MATERIAL PER M-DRAWING	<input checked="" type="checkbox"/> Y	N	ASTM A829
CORRECT THICKNESS	<input checked="" type="checkbox"/> Y	N	
PHOTO REQUIRED	Y	<input checked="" type="checkbox"/> N	
CORRECT REF # TO LINK CERT	<input checked="" type="checkbox"/> Y	N	MT-297080
CORRECT MATERIAL IDENTIFICATION	<input checked="" type="checkbox"/> Y	N	
CORRECT M# ON THE MATERIAL	<input checked="" type="checkbox"/> Y	N	
DOES THIS MATERIAL REQUIRE ENGINEERING SIGN OFF	Y	<input checked="" type="checkbox"/> N	
DOES THIS REQUIRE AN EXTRUSION REPORT	Y	<input checked="" type="checkbox"/> N	

CUT SAMPLE PIECE OF MATERIAL AND PREFORM A HARDNESS CHECK. RECORD RESULTS BELOW					
	HRC	HRB	DUR A	DUR D	WEBSTER
TYPE OF MATERIAL					
SIZE OF TEST SAMPLE					
HARDNESS / DUROMETER READING					

testers located in the Quality Office

QC 18 INSPECTION		ENGINEERING SIGNOFF (if required)
INSPECTED BY: <u>AI</u>	SIGNED OFF BY: _____	
DATE: <u>18/08/16</u>	DATE: _____	

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